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ABSTRACT

The Adaptive Dimension refers to the concept of making adjustments in approved educational programs to accommodate diversity in student learning needs, and to practices undertaken to make the approved core curriculum, instruction, and the learning environment meaningful and appropriate for each student. Adaptation takes into account the shift away from teacher-centered classrooms to student-centered classrooms in which students take responsibility for their own learning. The teacher's role changes from that of the central figure who directs all learning to that of supporter and facilitator of student learning. This document provides a conceptual framework and a comprehensive rationale for adaptation, including philosophical, psychological, and pedagogical bases for the position that it is an appropriate response to managing the challenges associated with maximizing student learning. Support is provided for the position that decisions about adaptations are best made by professionals working with students on a daily basis. It is the teacher as decision maker who assesses the needs of each learner in the classroom and exercises professional judgment regarding the adaptive variables. (Contains 52 references.) (LL)

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The Adaptive Dimension In Core Curriculum

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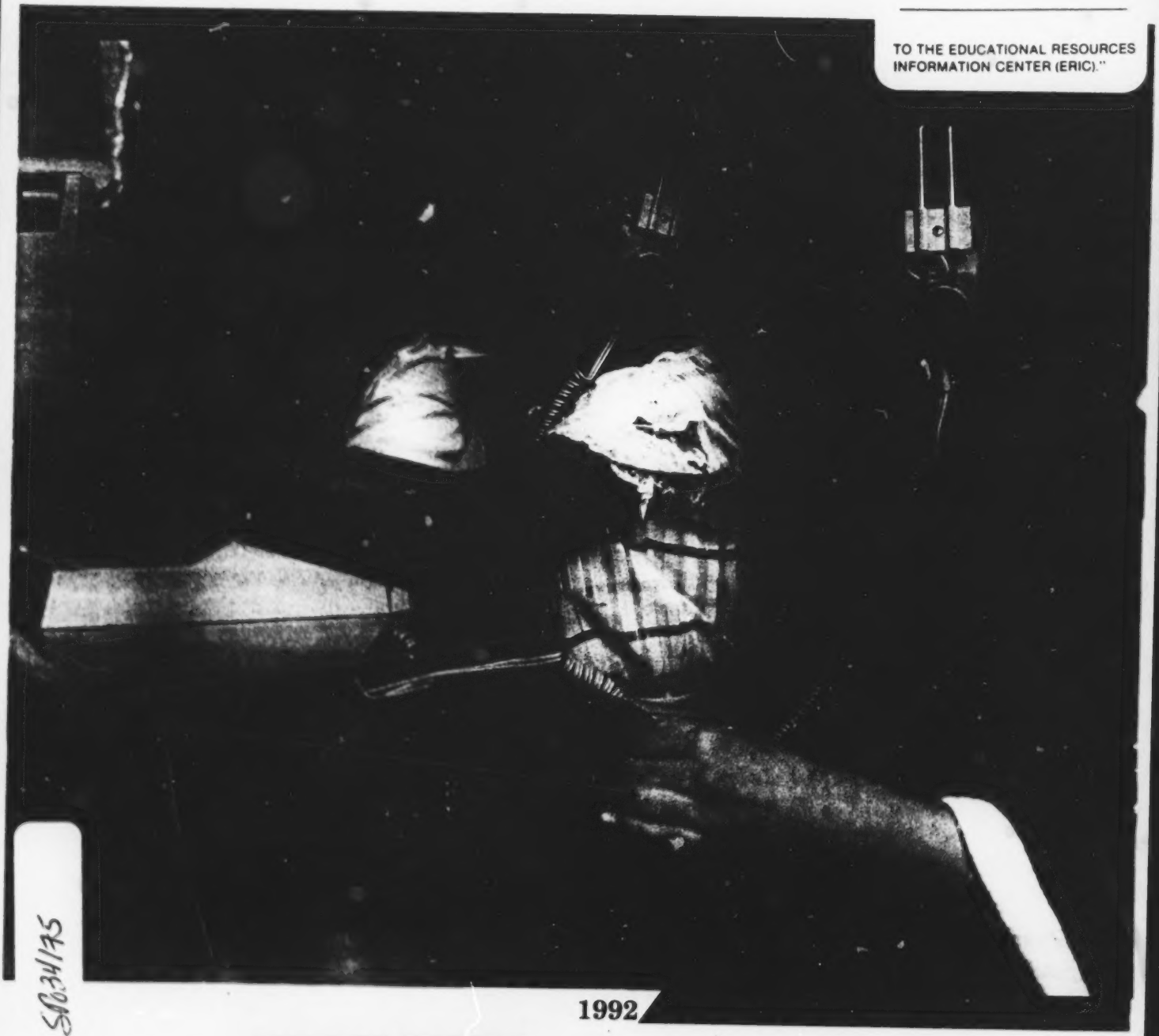

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The Adaptive Dimension In Core Curriculum

Saskatchewan Education
1992

Table of Contents

Acknowledgements ii

Introduction 1
Definition 1
Target Audience 3
Purpose of the Document 3
Changing Milieu 4

Foundations of the Document 5
Philosophical Rationale 5
Psychological Rationale 5
Pedagogical Rationale 6

Context for the Document 7
The Adaptive Dimension: A Foundational Document 7
Evolution of the Adaptive Dimension 7

Conceptual Framework 9
Principles of the Adaptive Dimension 9
Decision Making in the Adaptive Dimension 11

Applications Within The Framework 14
The Learner 16
Learning Environment Adaptations 18
Curriculum Adaptations 21
Instructional Adaptations 23
The Teacher As Decision Maker 25

Summary 27

References 28

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Introduction

Definition

The Adaptive Dimension refers to the concept of making adjustments in approved educational programs to accommodate diversity in student learning needs. It includes those practices the teacher undertakes to make curriculum, instruction, and the learning environment meaningful and appropriate for each student.

Student diversity exists in every classroom. Every instructional grouping is characterized by diversity of achievement, ability, interest, motivation, and needs. It is through the Adaptive Dimension that the classroom teacher accommodates the individual differences of the members of the class. Like the Common Essential Learnings, the Adaptive Dimension permeates all curriculum and instruction initiatives.

The Adaptive Dimension enables the teacher to:

- provide background knowledge or experience for a student when it is lacking;
- provide program enrichment and/or extension when it is needed;
- enhance student success and reduce the possibility of failure;
- address students' cultural needs;
- accommodate community needs;
- increase curriculum relevance for students;
- lessen discrepancies between student ability and achievement;
- provide variety in learning materials, including community resources; and,
- maximize the student's potential for learning.

Note: Throughout this document the use of the word **adaptation**, unless otherwise specified, refers to adjustments made purposefully by the teacher to three **adaptive variables**: curriculum content, instructional practices, and the learning environment.

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Both the Adaptive Dimension and the Common Essential Learnings are integral parts of Core Curriculum and are central to effective instructional decision making. As illustrated in Figure 1, these components link the distinct elements of Core Curriculum together and provide the opportunity to integrate curriculum and instruction.

Conceptual Base for Core Curriculum

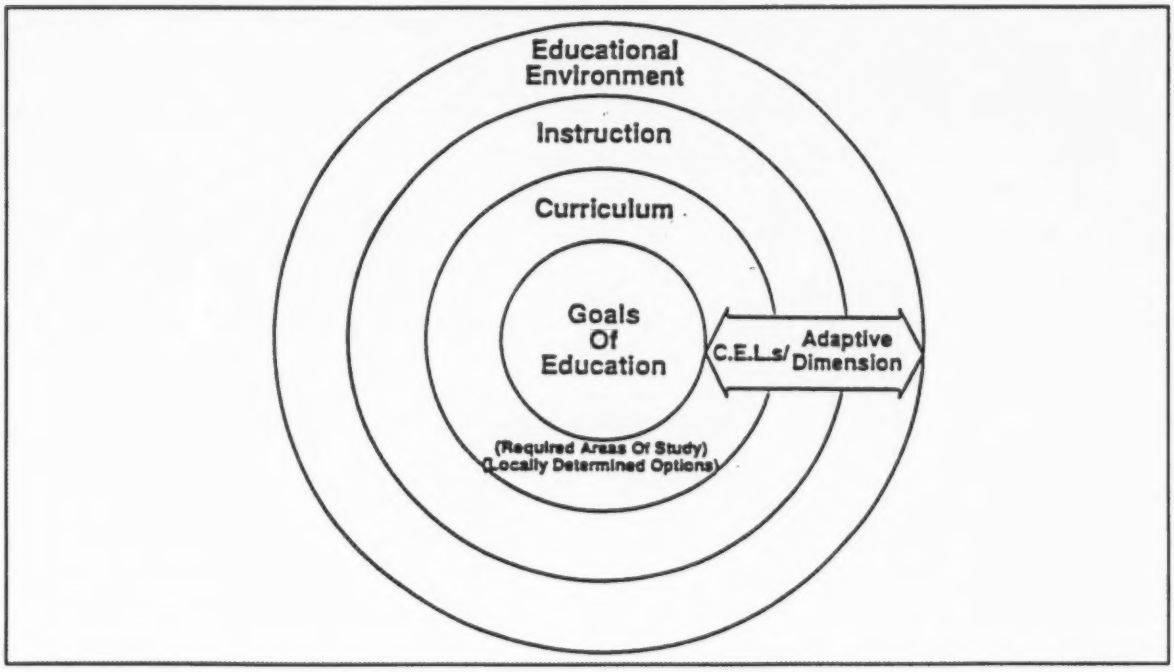

Figure 1

It is important to remember that the point of reference for the Adaptive Dimension is always the approved curriculum. Within this context, **foundational objectives are not modified**. The **adaptive variables** are adjusted so that the established curricular objectives can be achieved. Evaluation practices within the context of the adaptive dimension are also adjusted; however, such adaptations must not compromise the integrity of the formally stated curriculum objectives. When foundational objectives are significantly modified, or when adjustments are made to curriculum content, instructional approach, learning environment, or evaluation that significantly alter the nature of these objectives, then adaptation has occurred beyond the realm of the regular approved program and into the area of modified or alternative programming. Because the Adaptive Dimension is an essential part of all approved educational programs, students who are already in an approved modified or alternative program can also benefit from the adaptive decision-making process.

Target Audience

The Adaptive Dimension in Core Curriculum states the position of Saskatchewan Education regarding adaptations designed to meet student needs. The document is intended to assist educators who are responding to the needs of individual learners within the framework of Core Curriculum by:

- promoting reflective thinking about adaptations to curriculum and instruction by administrators and teachers;
- generating dialogue among professionals concerning the most appropriate and effective means of responding to individual differences within the classroom; and,
- providing direction for curriculum writers.

This document is not a comprehensive handbook on the specifics of adaptations to curriculum content, instructional practices, and the learning environment; rather, it is a document that provides a framework for decision making.

Purpose of the Document

The Adaptive Dimension in Core Curriculum provides a comprehensive rationale for adaptation. This includes the philosophical, psychological, and pedagogical bases for the position that adaptation of curriculum content, instructional practices, and the learning environment is an appropriate response to managing the challenges associated with maximizing student learning. In addition, the document offers a conceptual framework for the Adaptive Dimension.

The document provides support for the position that decisions about adaptations are best made by professionals working with students on a daily basis. This statement is based on the premise that teaching is both a science and an art and that the teacher has the knowledge, skills, and artistry necessary to assess and to make the appropriate adaptations to meet the needs of a diverse student population.

The teacher is the decision maker regarding adaptations. In order to support this role:

- Saskatchewan Education provides a framework for curriculum and instruction that recognizes and supports teacher decision making;
- school administrators provide leadership, resources and a supportive environment that nurtures collegiality and collaboration among teachers; and,
- teachers re-examine how they approach curriculum and instruction, and how they structure the learning environment to better accommodate student needs.

Changing Milieu

The concept of purposeful adaptation is one important part of the process of change that is currently taking place in the field of education. Indeed, the changes in education are a part of a larger paradigm shift that has affected many aspects of human thought and action in the twentieth century. The shift toward decentralized decision making and the provision of greater autonomy at the school level is part of an extensive **paradigm shift** in education today. The shift from the **traditional paradigm** to the **evolving paradigm** has brought about significant changes in educational theory and practice as illustrated in Figure 2.

Paradigm Shift in Education

Traditional Paradigm		Evolving Paradigm
	Curriculum	
• major focus on content		• content and process balance
• discrete disciplines		• integrated disciplines
• content acquisition		• learning to learn
• lock step progress		• continuous progress
	Instruction	
• teacher-centred classroom		• child-centred classroom
• single assigned textbook		• resource-based learning
• single instructional approach		• multiple approaches to instruction
• passive learning		• active learning
	Environment	
• competitive		• cooperative
• system level management		• school-site management
• supervision of learners		• empowerment of learners
• hierarchical structures		• professional/collegial structures

Figure 2

Teachers in Saskatchewan schools are faced with professional challenges that involve an ever-widening scope of responsibility. In addition to meeting educational objectives and helping students to attain a level of academic excellence, teachers are expected to address the needs of an increasingly heterogeneous student population. Students entering the education system present many challenges to the teacher. Differences in language proficiency, family constructs, cultural backgrounds, economic circumstances, and experiential background are but a few of the diversities for which adaptations must be made. The reality is that diversity has become the norm among the students in the classrooms of today (Johnson, 1990). These variations have the potential to enrich student learning and develop mutual respect among members of the class.

Foundations of the Document

The shift from a traditional paradigm to an evolving paradigm in education has major implications for teachers presenting an emancipatory and dynamic view of teaching and learning. In this new paradigm there is a shift in emphasis from the teacher to the learner. The role of the teacher in the classroom changes from that of the central figure who directs all learning to that of supporter and facilitator of student learning. The role of the student changes from that of passive receptor of knowledge to active participant in the learning process. In other words, there is a shift from a teacher-centred classroom to a student-centred classroom in which students take responsibility for their learning and develop a feeling of ownership for their learning and ideas (Doll, 1986; Berghoff & Egawa, 1991).

Philosophical Rationale

Saskatchewan Education supports the view that education is intended to promote the development of caring and responsible persons who are prepared to meet the challenges of a complex and changing world. To achieve this goal it is necessary to acknowledge that individual learners may have different levels of aptitude, achievement, interest, motivation, need, and ability. Students must be nurtured to become independent, active, self-organizing individuals. Teaching should be viewed as a means to empower students.

Adaptation is a reflection, in part, of a change in **philosophy** with respect to the roles, rights, and responsibilities of individuals in society. Respect for human dignity, respect for the right of individuals to make choices regarding their destiny, and the idea that children are not property but are persons with rights of their own are concepts that have gained acceptance in the world in the twentieth century. This shift in philosophical perspective has resulted in many changes in education. Parents are becoming more directly involved in the education of their children. Children themselves have become more directly involved in their own learning. The incorporation of a multicultural perspective in curriculum, including greater respect for diversity in culture, custom, language, and belief systems, has resulted in changes in curricular and instructional practice, and in the relationships between teachers and learners in the classroom.

Psychological Rationale

Research and development in the area of human **psychology** in the twentieth century, and most specifically in the past two decades, have resulted in greater understanding of how children learn. We now understand that cognition and language are developmental and occur in predictable stages that are similar in sequence, though not in time span, for all children. It is known that children learn using different modalities and operate in a learning environment with different learning styles. Their self-concept, motivational

level, and locus of control are important determining factors in their academic success. These understandings have important implications for how teachers teach, what they teach, and when they introduce new concepts. Whereas the traditional paradigm supported the practice of making children adapt to, or fit, the curriculum, the evolving paradigm supports the concept of assessing needs and adapting curriculum content and instructional practices to accommodate the developmental levels and learning needs of all students in the classroom.

Pedagogical Rationale

Educational research has contributed to a change in **pedagogical** perspective and this has, in turn, resulted in support for the concept of adaptation in curriculum and instruction.

> Much of what we know about group processes, the selection of appropriate materials by students and by teachers, the writing process, reading as a meaning-construction-procedure, curriculum organization, and observation and assessment techniques comes from pedagogical inquiry. (Froese, 1990, p.7)

Pedagogical inquiry, supported by educational research, has resulted in a shift from an emphasis on the product of learning to an emphasis on the process of learning. From this perspective, learning is regarded as an active, constructive process rather than as a receptive process. Teaching, from this perspective, is based on what is best for the whole student rather than what is the best way to cover prescribed course content (Darling-Hammond, 1990). This perspective provides justification for the concept of adaptation.

The Adaptive Dimension in Core Curriculum recognizes that classroom teachers have both the right and the responsibility to adapt the learning experiences so that students may benefit more fully from instruction. To do so, they require the freedom to select appropriate curriculum content, choose effective methods of instruction, structure the learning environment, and evaluate student learning. One of the major purposes of this document is to provide authorization as well as direction to teachers as they strive to ensure that the diverse needs of students are met within the context of Saskatchewan's Core Curriculum.

Context for the Document

The Adaptive Dimension: A Foundational Document

This is one in a series of foundational documents developed by Saskatchewan Education relative to the attainment of Core Curriculum objectives and *Directions* recommendations. The two preceding documents in this series are entitled: *Understanding the Common Essential Learnings: A Handbook for Teachers (1988)* and *Instructional Approaches: A Framework for Professional Practice (1991).* Other support documents from Saskatchewan Education that play an important role in adaptation include: *Student Evaluation: A Teacher Handbook (1991)* and *Curriculum Evaluation in Saskatchewan (1991).*

Evolution of the Adaptive Dimension

An appreciation for individual differences and a recognition of the need to provide for those differences in the classroom is not a new phenomenon in Saskatchewan. The concept of continuous progress as a means of individualizing instruction was introduced in Saskatchewan in the 1960s. This policy accommodated individual needs by allowing children to progress through the curriculum at their own rates according to their individual abilities. Again, in 1984, in the course of examining the education system and recommending changes to policy and procedures in curriculum and instruction, the Minister's Advisory Committee on Curriculum and Instruction reaffirmed its commitment to instruction appropriate to students' developmental levels.

The concept of adaptation to meet students' needs was first mentioned in *Saskatchewan Education: Its Programs and Policies* (Saskatchewan Education, 1984). The need for adaptation was again mentioned in *Toward the Year 2000: Future Directions in Curriculum and Instruction* (Saskatchewan Education, 1985). In a subsequent document, *Program Policy Proposals* (Saskatchewan Education, 1986), the Adaptive Dimension of Core Curriculum was referred to as the Adaptive Component. In December 1987, in a document entitled *Core Curriculum: Plans for Implementation*, the name for the concept of adaptation was changed from the Adaptive Component to the Adaptive Dimension. This change reflected the perspective that the Adaptive Dimension permeates all curricula as it relates to the need to recognize and make accommodations for the individual learning experiences for all students. The concept of instructional and assessment adaptation is also viewed as multi-dimensional and cannot be represented in a fragmented manner, such as by allocating a set amount of time for adaptation. Figure 3 outlines the evolutionary stages through which the Adaptive Dimension has progressed.

Evolution of the Adaptive Dimension

1960 The concept of Continuous Progress as a means of individualizing instruction was introduced in Saskatchewan.

1984 The Minister's Advisory Committee on Curriculum and Instruction reaffirmed a commitment to the provision for instruction appropriate to students' developmental levels.

1984 *Saskatchewan Education: Its Programs and Policies* reaffirmed the need to adapt environment, program, and/or instructional approaches to meet individual needs.

1985 *Toward the Year 2000: Future Directions in Curriculum and Instruction* further affirmed the need to adapt to meet individual needs in the classroom.

1986 *Program Policy Proposals* saw the introduction of a concept entitled the Adaptive Component - a proposal to reserve 30% of the time in each course within the curriculum for adaptations to meet the individual needs of students (enrichment, extension, reinforcement).

1987 *Core Curriculum: Plans for Implementation* changed the name from Adaptive Component to Adaptive Dimension. The time specification of 30% was eliminated. The expectation was stated that the Adaptive Dimension would be part of all programs of instruction. This change recognized the multiple variables that teachers must consider to meet diverse student needs. Policy guidelines in the document indicated that curriculum guides being developed by Saskatchewan Education would include suggested strategies for adapting programs and practices to meet individual needs of students.

1992 *Policies and Procedures: Locally Developed and Modified Courses of Study, and Alternative Education Programs* reaffirmed the authority of teachers and schools to adapt all approved curricula to meet individual needs through the Adaptive Dimension.

Figure 3

Conceptual Framework

The Adaptive Dimension has been defined as the concept of making adjustments in approved educational programs to accommodate diversity in student learning. Rather than being viewed as an "add-on", the Adaptive Dimension must be viewed as an essential ingredient that permeates curriculum and instruction in all regular, modified, and alternative education programs in Saskatchewan schools.

The Adaptive Dimension is not necessarily synonymous with individualized instruction but is synonymous with meeting individual student needs and maximizing student learning. In some instances a student's needs may best be met through individualized instruction where the teacher works one-to-one with the student; however, in other situations, some form of group instruction may be more appropriate for the student.

The Adaptive Dimension addresses the needs of a wide variety of students. Because each teacher, each learner, and the dynamics of each classroom are unique, the adaptations required may vary from student to student. For example, adaptations may be in the form of a modification of content to compensate for an informational deficit or may be in the form of an individual or small group enrichment activity to nurture demonstrated knowledge and interest in a particular topic.

A particular student may be able to achieve some curricular objectives through general instructional approaches, while requiring adaptation to curriculum content, instructional practices, and/or the learning environment to reach other objectives. Another student may require some form of adaptation in order to achieve curricular objectives in all content areas. Furthermore, the length of time that an individual student may require curricular, instructional, and/or environmental adaptations to learn efficiently may vary from a few lessons to being an integral part of an entire educational program.

The use of the Adaptive Dimension in Core Curriculum is guided by a set of general principles.

Principles of the Adaptive Dimension

- The Adaptive Dimension is designed for all students in all educational settings.
    - The Adaptive Dimension is an important aspect of all approved regular, modified, transitional, and alternative educational programs and courses in the K-12 school system.
- The Adaptive Dimension expects student diversity, as reflected in individual differences, to be a key consideration as teachers plan.

- It is acknowledged that students come to the classroom with significant differences in cultural backgrounds, aptitudes, interests, abilities, and achievement levels which must be accommodated through adaptations to curriculum content, instructional strategies, and the learning environment if all are to benefit equitably from the approved programs.

- The Adaptive Dimension assumes that there is an interrelationship among the variables associated with adaptation.
  - Adaptations to accommodate learning styles necessitate adjustments to instructional approaches and assessment practices.
  - Adaptations to evaluation practices may be necessitated by changes to the amount, type, and time frame for students to explore the curriculum.
  - Adaptations to curriculum, instruction, and assessment practices may require changes in resource requirements, support personnel requirements, and classroom organization.

- The Adaptive Dimension requires the teacher to attend to the learner, the learning task, and the learning environment in optimizing learning opportunities for students.
  - It is understood that adaptation takes into account the student's developmental level, the specific needs, the interests, and the learning styles of the learner, the demands of the particular learning task, the significant aspects of the learning environment, and the knowledge, skills, and abilities of the teacher.

- The Adaptive Dimension places expectations upon the teacher and support personnel to assess, plan, and facilitate appropriate learning experiences for all students.
  - Teachers are regarded as the professionals who have the authority and the responsibility to make adaptations to curriculum, instruction, and the learning environment to meet the needs of all students.
  - It is expected that teachers' decisions regarding adaptations will be based on current knowledge and understanding of research-based educational theory and practice.

- The Adaptive Dimension recognizes that students approach learning in multiple ways.
  - Teachers know about differences in learning styles and regard adaptations

designed to accommodate differences as an expected part of their teaching responsibilities.

- The Adaptive Dimension recognizes the importance of careful collaborative preplanning for instruction.
  - Preplanning, which may involve consultation with students, parents/guardians, and other professionals, is fundamental to structuring adaptations to maximize students' potential as independent learners.

- The Adaptive Dimension requires that assessment practices align with the curricular and instructional adaptation provided for the student.
  - Assessment practices must be adapted to be consistent with curricular and instructional adaptations.
  - It is expected that teachers will be familiar with current research and the best practices for diagnosis of student needs, assessment of student learning, and evaluation of all aspects of student development.

Decision Making in the Adaptive Dimension

Applying the Adaptive Dimension in the classroom setting involves the need to preplan curricular, instructional, or environmental adjustments to **approved educational programs** in the interest of improved student learning. It is expected that teachers will use the approved curriculum as a starting point for making decisions about adaptations.

The Adaptive Dimension, then, is concerned first with the assessment and evaluation of the needs of all students relative to the **approved curriculum**. Subsequently, it is concerned with the **refinement of decision making** as the teacher shifts the focus of attention from the whole class to small groups and to individual students.

The individual decision-making process outlined in Figure 4 suggests that teachers begin by using a wide-angled approach to classroom instruction, uniformly applying decisions about curriculum content, instructional practices, and the learning environment to **all students.** Whole class instruction affords the teacher an opportunity to make some initial decisions concerning the needs of students in the class. Some students may

Decision Making in the Adaptive Dimension

Refinement of teacher-made decisions based on identification of individual student's needs. ⟶

The Approved Curriculum		
Target Population	**Focus**	**Decision Emphasis**
Classroom as one group	Broad focus on all students (assessment for adaptation occurs here)	• decisions about curriculum, instruction, and environment are uniformly applied to all students • standard curriculum is used • emphasis is on mastering predetermined and common curricular objectives • full repertoire of instructional approaches is employed
The Adaptive Dimension in the Approved Curriculum		
Target Population	**Focus**	**Decision Emphasis**
Small Group	Narrower focus (refinements are based on similar interests, needs, or abilities)	• curricular, instructional, or environmental adjustments are selectively and purposefully applied to similar interest, need, or ability groupings • emphasis is on enriching, extending, reinforcing, or teaching differentially to stated curricular objectives
Individual Students	Narrowest focus (refinements are very specific to individual needs)	• curricular, instructional, or environmental adjustments are selectively and purposefully designed to meet individual student needs • emphasis is on tailoring the content and instructional approach in the context of individual needs so that the student achieves the objectives outlined in the approved curriculum

Figure 4

require no adaptations because the curriculum content, instructional practices, and the learning environment are appropriate to their needs. As a result of initial assessment, the teacher has an opportunity to make adjustments for those students who require an adaptation.

Through the decision-making process a teacher might decide to make adaptations in order to enrich, extend, reinforce, or **teach differentially** toward formally stated foundational objectives for **small groups of students**. When such groupings are established they may be based upon similar student needs, interests, and/or abilities, or may, in some instances, be deliberately arranged to promote diversity. Adaptations of this nature are dynamic in the sense that subsequent evaluation leads to further adjustments in the pursuit of improved opportunities for student learning. Grouping arrangements must be flexible based on student needs in any given subject area. These groupings should be of short duration to allow the teacher to adjust the curriculum content and instructional strategies for small groups of students to help them meet identified learning objectives.

A teacher might also decide it is necessary to make adaptations for an **individual student**. In such a case the teacher enriches, extends, reinforces, or teaches differentially toward formally stated curricular objectives based on individual needs, interests, or abilities. These adaptations are also expected to be varied, flexible, and of the appropriate duration to achieve the objectives of the adaptation.

Because the Adaptive Dimension is tailored to meet individual student needs, the **extent of adaptation** and the **duration of adaptation** will not be uniform for all students. It also follows that not every student will require program adaptations.

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Applications Within The Framework

The Adaptive Dimension represents a comprehensive view of learners. From this perspective, student diversity is regarded as the norm to be valued, and curriculum, instruction, and the learning environment are regarded as the variables that must be adapted to the needs of the student rather than as a set of uniform predetermined expectations to which the student must adjust.

Celebrating and accommodating student diversity rather than striving for uniformity in student attitudes and achievements demands a different perspective of the teacher's role. The teacher is viewed as the facilitator of learning in the classroom. Curriculum is viewed as something to be manipulated by the teacher. Independence, freedom to make important decisions regarding adaptations, support for experimentation with all facets of teaching, encouragement to break away from traditional approaches to learning and teaching, and collaboration with colleagues should all be encouraged through administrative support that recognizes teachers as knowledgeable and capable professionals.

As stated earlier, the Adaptive Dimension variables are:

- curriculum content
- instructional practices
- learning environment

Adaptations to one or more of these variables are made in accordance with the strengths, needs, and interests of the learner. It is the teacher who assesses the needs and strengths of the learner. It follows that the teacher makes the appropriate adaptations based on the assessment and provides the most appropriate educational program for each student. The student is the focus of these interrelated decisions, as shown in Figure 5.

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Adaptive Dimension Variables

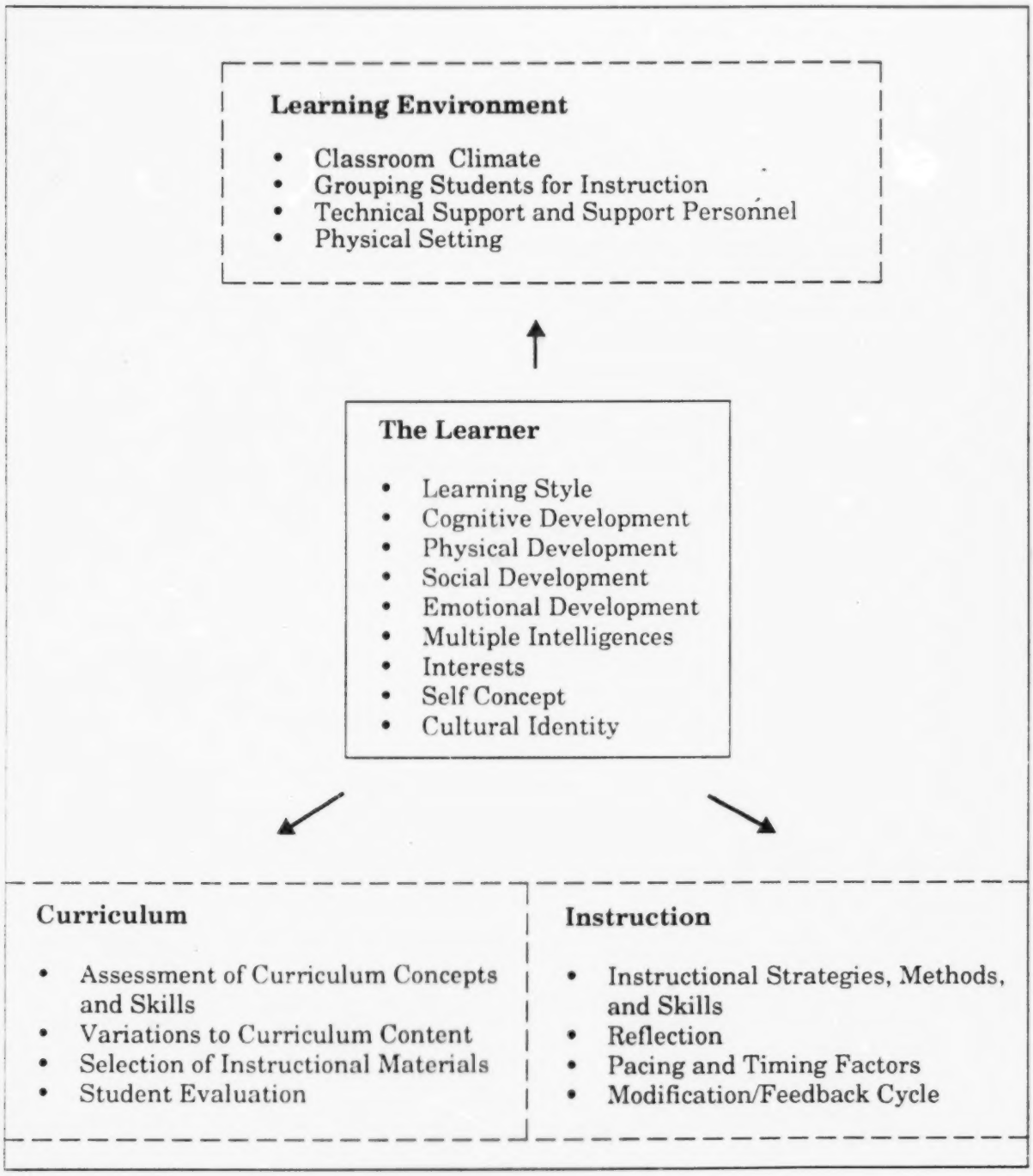

Figure 5

The Learner

The key variable that informs and determines the type and extent of adaptations is the learner. Any adaptation must begin with the developmental level, abilities, aptitudes, motivation, interests, cultural backgrounds, and achievement level of each learner.

Learning Styles

When teachers understand the concept of learning styles and apply that knowledge in their interactions with students, those students are more likely to enjoy their school experiences and to achieve academic success (Butler, 1987). By encouraging students to understand their learning styles and by providing learning options based on these learning styles, teachers can create a supportive classroom environment that is conducive to maximizing student academic potential.

Cognitive Development

A general understanding of cognitive development, as well as the ability to assess the level of cognitive development in individual students, is also a necessary prerequisite to adaptation. Students of the same chronological age in the same classroom may be at quite different stages of development in terms of their capacity to interact with curriculum content and to benefit from specific instructional strategies. They may also differ in experiential background and degree of prior knowledge they bring to the learning experience. It is important that teachers know what types of learning tasks are appropriate for different levels of cognitive development in order to make the necessary adjustments in the learning experience.

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Physical Development

Knowledge of learning styles and cognitive functioning level are important aspects of the larger process of recognizing and accommodating individual differences in the classroom. Knowledge of the physical development of learners is also important. Large muscle and small muscle development, visual-motor coordination, and development of spatial relations are just a few of the factors in a student's physical development that have important implications for the student's ability to succeed in tasks commonly associated with school learning. A clear understanding of the kinds of physical factors affecting a student's ability to learn and a willingness to adapt curriculum and instruction to accommodate differences in physical development are critical to effective teaching.

Social and Emotional Development

The social and emotional development of students must be taken into consideration when the teacher is observing students and planning the type and extent of adaptations required to support student learning. In addition to knowing about typical social and emotional development in children, the teacher must also consider such things as social and cultural factors, family constructs, home environment, and the experiential background of individual children that might create atypical patterns of development. Problems that might occur could potentially be alleviated by adaptations to the learning experience.

Multiple Intelligences

Understanding the role of intelligence in academic performance and maintaining the ability to assist students to maximize their intellectual strengths are essential parts of the teacher's role. Recent research in the area of intelligence supports the view of multiple intelligences (the concept of an individual having varying levels of aptitude toward e.g., numeracy and abstract thinking) as opposed to earlier views of intelligence as a single measurable attribute (Gardner, 1983; Kaufman, 1979; Sternberg, 1988; Ysseldyke, 1988). Many researchers accept the general premise that intelligence involves selecting, assessing, and adapting to or shaping the environment (Feuerstein, 1980; Sternberg, 1985, 1986). Although the components of intelligence may be universal, the ability to use those components to shape and to adapt to specific environmental situations varies from one individual to another. It might be argued that "how much" intelligence an individual has is less important than how well that individual uses intelligence to deal effectively with the environment. If this is the case, the role of the teacher is twofold: first, to determine the strengths and weaknesses of students in terms of their various types of intelligence; and second, to help students to maximize their strengths and compensate for weaknesses. Because each learner is unique in terms of the combination of intelligences, strengths, and weaknesses, the teacher must exercise professional decision making to determine which adaptations to curriculum, instruction, and learning environment, if any, are required to help students to maximize their

learning potential.

Interests

Students' interests should be one of the major forces behind learning in the classroom. Recognizing that motivation is often intrinsic, it is essential that the classroom teacher capitalize on the abilities and interests of students in developing an appropriate instructional program. Operating within the parameters of Core Curriculum, it is the teacher's responsibility to become familiar with the individual interests and abilities of each student and to use that knowledge to make the appropriate adaptations. By so doing, the teacher helps students to explore and to expand both their interests and their abilities in a variety of ways.

Self Concept

It is essential that the classroom teacher recognize the importance of self concept as a critical factor in the social, emotional, and academic development of students. Positive interaction with parents and significant others in a child's early years is an important factor in the development of a healthy self concept. Another factor is the interaction that takes place at school (Frey & Carlock, 1989). It is important that the classroom teacher do everything possible to structure learning experiences in the classroom in a manner that will help students to develop positive perceptions of themselves as individuals and as competent learners.

Having assessed the strengths and the needs of the learner, the teacher determines whether or not adaptation is required in order to provide the most appropriate educational program. As indicated in Figure 5, the teacher has many options to consider in the process of adaptation. The first to be discussed is the learning environment.

Learning Environment Adaptations

Included in the learning environment are elements such as:

- classroom climate
- physical setting
- grouping students for instruction
- technical supports and support personnel

Classroom Climate

Classroom climate, which includes the norms, understandings, expectations, and values teachers and students come to share in their daily interactions, can have a major impact

on the learner. While most learners respond best in a climate that is warm and supportive, there may be significant differences in their individual needs. Certain aspects of a classroom environment may be very important for one learner and inconsequential for another. For example, some students may prefer to work independently in a quiet, orderly, structured environment while others may prefer a more collaborative and interactive learning environment (Treffinger & Barton, 1989). Others need frequent verbal interaction for feedback and encouragement. Although the teacher cannot possibly accommodate the preferences of each student all of the time, an awareness of student preferences allows the teacher to accommodate individual preferences some of the time, while simultaneously developing a student's capacity to work in a variety of learning environments.

Physical Setting

The physical setting includes variations in environmental factors such as noise level, light, temperature, ventilation, room arrangement, and times of day for optimum learning, which may have an impact upon student learning (Dunn & Dunn, 1975, 1978). While it is possible to place too much emphasis on environmental elements, it is important that the teacher take these elements into account as part of preplanning for a learning environment that maximizes student learning potential. In addition, such considerations as appropriate furnishings, seating arrangements, and use of space are also important factors in promoting a classroom environment that is conducive to learning.

Grouping Students For Instruction

Historically the solution for addressing student diversity within the classroom has been to assess similarities in learning characteristics and to put those students with similar characteristics together in instructional groups (Slavin, 1989). In other words, students have been grouped within the classroom or differentiated into different programs or segregated classes on the basis of perceived academic ability. According to Shepard and Smith (1989) and Slavin, (1986, 1989), when students are divided into groups or classrooms according to perceived ability, the gap between the most successful and least successful students tends to widen over time. Often teacher expectations change when students are labelled as slow learners or gifted learners. There are alternatives to homogeneous grouping practices that do not isolate students and do not foster stereotypes or limit teacher expectations (Archambault, 1989; Braddock & McPartland, 1990). Some of these alternatives include: heterogeneous cooperative learning groups, peer tutoring plans, flexible cross-grade tutoring plans, and groupings that vary from time to time or from subject area to subject area. It is recommended that teachers consult the Saskatchewan Education publication, *Instructional Approaches: A Framework for Professional Practice* (1991), for more detailed information on effective grouping practices and examples of different kinds of small instructional groups.

Technical Support and Support Personnel

Technical supports are currently available to both students and teachers. For example, some students may require a brailler, voice synthesizer, or personal amplification system in order to derive maximum benefit from classroom instruction. In addition, the teacher may choose to meet some individual needs through the use of such things as computer assisted instruction, computer mediated instruction, interactive video instruction, and the use of electronic data bases (Behrmann, 1984; Garvey, 1982; Levin, Glass & Meister, 1987).

There are times when the classroom teacher requires the services of a variety of support personnel in order to make the necessary adaptations to meet student needs. Consultative services may be obtained from school-based or system-based personnel. Professionals such as speech and language pathologists, school psychologists, physiotherapists, nurses, social workers, and counsellors may team with the classroom teacher to assist in program planning. In addition, the appropriate use of paraprofessionals and volunteers may increase the amount of time teachers spend interacting with students. Some of the tasks that might be performed by paraprofessionals and volunteers include:

- one-to-one instruction for practice and maintenance activities;
- small group instruction for practice and maintenance activities;
- preparation of instructional materials;
- modification of written materials to ensure appropriateness for individual needs;
- mentorships, job coaching, career shadowing; and,
- learning-access support for students with disabilities - such as sign language interpreters, orientation and mobility coaches, note takers, and transcribers.

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Curriculum Adaptations

It is important that teachers understand that adaptations designed to meet individual needs must be undertaken with a view to helping them achieve the **approved curriculum foundational objectives**, not with the view of changing or reducing the basic objectives.

Assessment of Curriculum Concepts

The first step in curriculum adaptation involves an examination of curriculum concepts and a determination of the knowledge, skills, and attitudes essential in the educational program of all students. Curriculum guides are a valuable support for the teacher in this regard. Depending upon the cognitive development of individual learners, as well as a number of other factors, such as interest and motivation, it may be necessary to omit, substitute, or add a specific curriculum concept without jeopardizing the foundational objectives of the course. The principles of differentiated curriculum (Kaplan, 1979; Maker, 1982) may be a useful guide for teachers seeking to meet individual interests and individual needs while still ensuring that each student is able to attain the majority of approved foundational objectives for a particular course of study.

Variations to Curriculum Content

The determination of essential content, the substitution of equivalent content, and the addition of supplemental content are the responsibility of the classroom teacher. The teacher may wish to seek suggestions, materials, and support from colleagues, school and system-based consultants, school administrators, special education teachers, and Saskatchewan Education personnel.

The complexity of concepts, including the degree of abstraction and the sophistication of thinking required to comprehend those concepts, must be considered by the teacher in planning adaptations to curriculum content. While some students require the challenge of abstract concepts using the skills of synthesis and evaluation, others need concrete examples to assist them in their thinking processes.

Resource-based learning is a particularly effective means of varying content by using resource materials that best suit students' needs (e.g., reference books, tape recordings, filmstrips). This allows students, for example, to develop research topics or questions appropriate for them and to use materials suited to their own ability level, language proficiency, preferred learning style, and cultural orientation. Means of reporting can also vary from traditional written reports and oral presentations to audio-visual presentations, visual journals, or kinesthetic activities.

Many teachers choose theme or context-based teaching as a way to vary content for students. They also often adjust content by monitoring their use of vocabulary. By

using both familiar and new vocabulary in appropriate contexts, teachers can challenge all students, regardless of the prior knowledge or experience they possess.

Selection of Curriculum Resources

Teachers may adapt curriculum content through their selection of instructional materials. Resource-based learning offers the teacher flexibility in providing print and non-print materials that are appropriate for the variations in language development, literacy levels, ability, aptitude, and interests found in every classroom. Some students may require materials that provide basic information on a topic while other students in the same class may require advanced materials on the same topic. Using a variety of print and non-print materials ensures that all students will have instructional resources to match their level of competency.

If a student cannot achieve the foundational objectives in most courses of study in the regular program, even with adaptations, then movement has occurred beyond the limits of the regular approved program and a modified or an alternative education program must be initiated. Information on the development and the approval process for locally modified courses and alternative education programs is contained in *Policy and Procedures: Locally Developed and Modified Courses, and Alternative Education Programs* (Saskatchewan Education, 1992).

Student Evaluation

As stated in *Student Evaluation: A Teacher Handbook* (Saskatchewan Education, 1991)

> ... student evaluation should be an integral part of good teaching practice ... student evaluation should be planned, tied to the intended outcomes of the curriculum, and be capable of meeting individual student needs. (p. 2)

Within the context of the Adaptive Dimension, evaluation practices must also be adjusted, provided that such adjustments do not compromise the integrity of the formally stated foundational objectives. Teachers are advised to consult appropriate sections of Chapter Two in *Student Evaluation: A Teacher Handbook* (Saskatchewan Education, 1991) for specific suggestions regarding evaluation of students who require curricular adaptations in order to maximize their learning potential.

Instructional Adaptations

Instructional Strategies, Methods, and Skills

Adapting instruction refers to the selection of appropriate instructional strategies, methods, and skills for all students. This does not mean that teachers must instruct every student in the class differently. Rather, teachers plan instructional practice with every student in mind so that every student has an opportunity to learn.

The teacher has options when making instructional decisions regarding the approved curriculum.

- The teacher may decide it is appropriate to instruct the whole class in the same manner. This can be accomplished through direct instruction, through heterogeneous group work, or through any instructional method the teacher deems appropriate for the task.

- The teacher may decide to adapt instruction for a small group of students with similar needs, interests, or abilities. This could be for the purpose of enrichment, extension, reinforcement, or differential teaching.

- The teacher may decide that an individual student requires adaptive instruction for any number of reasons, including enrichment, extension, or reinforcement. The adaptation could range from one-to-one instruction to independent study.

Decisions regarding these choices are based on ongoing assessment and evaluation and are always dynamic and changing. Instructional decisions recognize that students' needs may vary from subject to subject, as well as over time.

Instructional Approaches: A Framework for Professional Practice (Saskatchewan Education, 1991) offers more detailed information about specific strategies, methods, and skills that teachers may employ in the delivery of curriculum to meet diverse needs.

Some of the ideas and suggestions described in this document are particularly appropriate for students requiring instructional adaptations. Cooperative teaching, cooperative learning, and peer tutoring are three instructional methods that may be of particular benefit to students requiring instructional adaptations.

Cooperative teaching involves co-teaching by two or more teachers in order to meet the special needs of a single student or small group of students in the classroom. In one type of cooperative teaching two teachers work together on the same curriculum content. One teacher instructs in advance those students who need assistance with such things as vocabulary, concepts, study skills, and research skills that will be required in the lessons to be delivered by the other teacher in the upcoming days or weeks (Bauwens et al, 1989). In another type of cooperative teaching one teacher provides instruction in the curriculum content while the other teacher provides instruction in such things as reading, writing, and organizational skills (Ruhl, Hughes & Schloss, 1987). This teaching method lends itself well to the adaptive dimension because, in this partnership, one teacher analyzes the adaptations required and the other teacher provides the appropriate adjustments.

Cooperative learning involves instruction through small heterogeneous groups. Objectives are established for both academic and interpersonal collaboration among the members of the groups. Relationships among students with widely varying needs can improve significantly when schools are committed to the principles of cooperative learning. In addition, researchers have demonstrated that students of all ages and ability levels generally perform at a higher academic level and retain what they have learned better when they participate in cooperative learning experiences as compared to when they work independently (Johnson & Johnson, 1989; Lloyd, Crowley, Kohler & Strain, 1988; Slavin, 1988).

Peer tutoring and cross-age tutoring have been found to be very effective in increasing academic achievement among students experiencing academic difficulties. In addition to academic gains for the students being tutored, researchers have shown that there can be motivational, social, and academic benefits for both tutors and learners (Jenkins & Jenkins, 1985; 1987).

Pacing and Timing Factors

Often an adjustment to the pacing of instruction is all that is required to allow the learner to obtain maximum benefit from instruction. Some students require less time to assimilate curricular concepts and need to be provided with opportunities to expand their knowledge and extend their understanding of concepts by working independently on individual or small group projects. Other students may be able to assimilate the concepts in a particular lesson or course of study only when the introduction of these new concepts occurs at a slower pace. Finally, some students may be able to comprehend the curricular concepts being presented, but for a variety of reasons may require additional time to complete assignments and to write examinations in order to demonstrate what they have learned.

The Teacher As Decision Maker

Getting to know students is an evolving interactive process that is essential to good teaching practice. When making programming decisions, it is important that the teacher know as much as possible about each learner. Because good assessment practices are essential for good program decisions, caution should always be taken to choose assessment instruments and techniques that are fair, unbiased, and most appropriate. Saskatchewan Education has prepared a number of documents to alert teachers to the possibilities of bias in curriculum, instructional practices, evaluation practices, and the selection of materials. Teachers are encouraged to examine the following Saskatchewan Education publications for guidance and support in the provision of fair and unbiased educational assessment and appropriate programming for all students.

- *A Five Year Action Plan for Native Curriculum Development (1984)*
- *Beyond Bias: Informational Guidelines for Reducing Negative Bias in Instructional Materials (1984)*
- *Curriculum Evaluation in Saskatchewan (1991)*
- *Gender Equity: A Framework for Planning (1991)*
- *Gender Equity Policy and Guidelines for Implementation (1991)*
- *Gender Equity Resource Directory (1991)*
- *Selection of Fair and Equitable Learning Materials (1991)*
- *Special Education Policy Manual (1989)*
- *Student Evaluation: A Teacher Handbook (1991)*
- *The Indian and Métis Education Policy from Kindergarten to Grade 12 (1989)*

In addition to considerations of possible bias in assessment, it is also important that teachers be cognizant of the need for dynamic, as opposed to static, approaches to assessment. In other words, approaches to assessment must be integrated with curriculum and instruction and must be an integral part of the learning process. Assessment and teaching are one integrated process linked by the evaluative and reflective thinking of both the teacher and the learner. With dynamic assessments, teachers can alter the ways in which a task is presented, the nature of the task, and the expected response mode.

Effective assessment should lead to the establishment of a student performance baseline. Instead of measuring student progress according to a set of predetermined criteria for a specific grade level, progress for each learner is measured against the student's performance baseline. This approach to assessment reduces the potential for negative consequences associated with competition and comparisons between students within the classroom. It encourages teachers to focus on individual needs and individual progress (Strickland & Turnbull, 1990). For more detailed information on student assessment and specific techniques for use with students requiring adaptations, teachers are referred to the document *Student Evaluation: A Teacher Handbook* (Saskatchewan Education, 1991).

Networking, consultation, and collaboration with parents/guardians and professional colleagues are important ways to enhance the teacher's decision-making effectiveness. Shared responsibility for decision making and delivery of appropriate programming invites classroom teachers, special education teachers, school administrators, other professionals, and support staff to contribute to the formulation of an effective adaptation plan. Once the classroom teacher has accumulated sufficient information about the learner's abilities, aptitudes, interests, and performance baseline, the appropriate consultation and collaboration with parents/guardians, colleagues, and others can occur. With input from others, the teacher can then exercise professional judgment in determining the best course of action.

It is the teacher who is the facilitator of learning. First, the strengths, interests, and the needs of the learners are assessed. The teacher makes the adaptations that are deemed necessary in order to maximize the learning potential of each student. The professional judgment of the teacher is the critical factor in decision making with respect to adaptations. The authority and the responsibility to make the curricular, instructional, and learning environment adaptations that will assist students to achieve established curriculum objectives in Saskatchewan schools rests with the teacher.

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Summary

A recognition of student differences and the need to accommodate these differences is not new to the educational community in Saskatchewan. Increasing diversity in the student population combined with a shift in philosophical, psychological, and pedagogical perspectives in education in recent years has resulted in significant changes in the way teachers are expected to accommodate the diverse educational needs of students.

The Adaptive Dimension empowers the teacher to make adjustments in approved educational programs to accommodate variations in student needs. Like the Common Essential Learnings, the Adaptive Dimension permeates all curriculum and instruction in regular, modified, transitional, and alternative education programs in Saskatchewan schools.

Critical to appropriate application of the Adaptive Dimension is the understanding that **foundational objectives** are **not modified**. Rather, the curriculum, instructional approaches, and the learning environment are adjusted so that students with varying strengths and needs can achieve prestated curriculum objectives. It is also understood that evaluation practices within the context of the Adaptive Dimension may need to be adjusted. These adjustments must occur in a manner that does not compromise the integrity of the formally stated curriculum objectives. When adjustments are made to curriculum, instruction, evaluation, or learning environment that alter the foundational objectives, then adaptation has occurred beyond the realm of the Adaptive Dimension and into the area of modified or alternative programming.

The Adaptive Dimension is intended to meet individual student needs through adaptations that enrich, extend, reinforce, or teach differentially toward formally stated curricular objectives for **small groups of students**. The teacher might also choose to accommodate the needs, interests, or abilities of **individual students** using the same procedures.

The **teacher is the key to successful application of the Adaptive Dimension**. It is the teacher as decision maker who assesses the needs of each learner in the classroom and then exercises professional judgment regarding the adaptive variables in order to provide the best possible educational program for each student in the classroom. **Through the use of the Adaptive Dimension teachers are empowered to exercise their professional judgment to make educational decisions to accommodate student diversity.**

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